AMENDMENTS TO THE SPECIFICATION:

Please amend the specification as follows:

At page 2, lines 24-25 and page 3, lines 1-9:

According to a first aspect of the present invention, an objective function is defined for minimizing a number of candidate tree graphs for accommodating the ~~said~~ communication paths and a first constraint equation is defined for causing all of the candidate tree graphs to form a tree. A second constraint equation is defined for accommodating the communication paths in one of the candidate tree graphs. A third constraint equation is defined for determining whether each of the candidate tree graphs is used to accommodate the communication paths. A mathematical programming problem formed by the objective function, and the first, second and third constraint ~~constrain~~ equations is solved to obtain a plurality of trees in which the communication paths can be accommodated.

At page 3, lines 10-25:

According to a second aspect of the present invention, an existing tree is stored and a decision is made as to whether communication paths can be accommodated in the existing tree. An objective function is defined for minimizing a number of candidate tree graphs for accommodating those communication paths which cannot be accommodated in the existing tree. A first constraint equation is defined for causing all of the candidate tree graphs to form a tree if all of the communication paths cannot be accommodated in the existing tree. A second constraint equation is defined for accommodating those

communication paths that cannot be accommodated in the existing tree in one of the candidate tree graphs. A third constraint equation is defined for determining whether each of the candidate tree graphs is used to accommodate at least one of the communication paths. A mathematical programming problem formed by the objective function, and the first, second and third constraint ~~constrain~~ equations is solved to obtain a plurality of trees in which those communication paths that cannot be accommodated in the existing tree can be accommodated.

At page 4, lines 1-9:

According to a third aspect of the present invention, a first constraint equation is defined for causing all candidate tree graphs to form a tree and a second constraint equation is defined for accommodating communication paths in one of the candidate tree graphs. Non-negative artificial variables are embedded into the first and second constraint equations. An objective function is defined for minimizing a total number of the non-negative artificial variables. A mathematical programming problem formed by the objective function and the first and second constraint ~~constrain~~ equations is solved to obtain a plurality of trees in which the communication paths can be accommodated.

At page 4, lines 10-21:

According to a fourth aspect of the present invention, an existing tree is stored and a decision is made as to whether communication paths can be accommodated in the existing tree. A first constraint equation is defined for accommodating those communication paths which cannot be accommodated in the existing tree in one of the candidate tree graphs. A second constraint equation is defined for causing all of the

candidate tree graphs to form a tree. Non-negative artificial variables are embedded into the first and second constraint equations. An objective function is defined for minimizing a total number of the non-negative artificial variables. A mathematical programming problem formed by the objective function, and the first and second constraint ~~constrain~~ equations is solved to obtain a plurality of trees in which those communication paths which cannot be accommodated in the existing tree can be accommodated.